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XI International LISA Symposium

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Editorial: XI International LISA Symposium

The XI International LISA Symposium took place at the University of Zürich (Irchel Campus) from 5 to 9 September 2016. Two years before, at the X LISA Symposium in Gainesville in Florida, it was decided to hold the following one in Zürich. At that time we could not imagine that in the following years the landscape in the field of gravitational waves would change in a dramatic way, and for the best. It started with the perfect flight of LISA Pathfinder on 3 December 2015, followed by the announcement of the first results on 7 June, showing that the performance of LISA Pathfinder was much better than expected and already at the level of the LISA requirements; a wonderful result, achieved after more than a decade of big efforts in preparing the mission. Then, on 11 February 2016 the LIGO Scientific Collaboration announced the first ground based detection of gravitational waves. These nice developments made 2016 a special year in the history of gravitational waves, 100 years after the first work of Einstein predicting the existence of gravitational waves within his theory of General Relativity.

Given these spectacular developments it came not as a surprise that the interest in the community for the LISA Symposium increased and indeed about 250 participants attended the meeting, which was in all aspects very successful. The format consisted of plenary talks, in total some 68 talks, and almost 100 posters. The main topics of the talks covered the first results from LISA Pathfinder, the further development of LISA and an overview of the results obtained so far by the ground based gravitational wave detectors (LIGO and VIRGO) as well as Pulsar Timing Arrays. Several talks covered different aspects of astrophysics and cosmology related to gravitational waves. One talk was devoted on the preliminary results of the satellite Microscope, whose aim is to test the equivalence principle in general relativity. A joint eLISA and L3ST (a NASA committee) consortium meeting was also organized. There were also programmatic talks given by Prof. A. Gimenez (Science Director of ESA) and by Dr. Paul Hertz (Astrophysics Division Director of NASA). The full program can be found in this volume as well as the lists of the Science Advisory Committee (SAC), the Local Organizing Committee (LOC) and the participants.

This volume of proceedings contains about 60 contributions, including talks and posters. Although the focus of this meeting was put on the first results of LISA Pathfinder, only few of the contributions in this volume are devoted to them, due to the fact that most of the material presented in the meeting was preliminary and will be published in peer reviewed journals after the end of the LISA Pathfinder mission. We thank all the contributors for their effort in sending a paper for the proceedings. We have a nice volume that will be of use for all participants and we are also very grateful that we could organize the meeting at such a special and probably unique period in the history of gravitational wave physics in Zürich.

Zürich is closely related to Einstein, who had relations with both the ETH, where he made his studies and later was a professor, and with the University, where he obtained his PhD and got his first academic position as a professor after some years at the Patent Office in Bern. Moreover,



substantial parts of his theory of General Relativity were developed during his stay in Zürich, and he received important mathematical help from Marcel Grossmann, a colleague at ETH.

We thank the members of the SAC and the conveners of the sessions who helped shaping the scientific program. A particular thank goes to Monica Colpi: she helped in a substantial way to define the program and in inviting many of the speakers. We thank all our collaborators in the LOC, who in a way or another helped in organizing the meeting and contributed in a crucial way to its success. Particularly our secretary Carmelina Genovese and Rafael Küng deserve a big credit for their effort. We acknowledge also the financial support of the University of Zürich, whose president Prof. Michael Hengartner held the welcome speech, and of the Pauli Center of ETH Zürich.

The future of our field is bright. ESA has already started the preparation for the L3 mission, the LISA mission proposal was submitted by the LISA Consortium in mid of January 2017 and is presently under review. LIGO and VIRGO are again collecting data and new events will surely be detected. After many years of planning and preparation efforts, gravitational wave astronomy has really started.

Domenico Giardini and Philippe Jetzer